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Award Number: DAMD17-01-1-0749

TITLE: Wolf Creek VI Conference on Cardiopulmonary Resuscitation

PRINCIPAL INVESTIGATOR: Max Weil

CONTRACTING ORGANIZATION: The Institute of Critical Care Medicine

Palm Springs, California 92262

REPORT DATE: September 2001

TYPE OF REPORT: Final Proceedings

PREPARED FOR: U.S. Army Medical Research and Materiel Command

Fort Detrick, Maryland 21702-5012

DISTRIBUTION STATEMENT: Approved for Public Release;

Distribution Unlimited

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#### REPORT DOCUMENTATION PAGE

Form Approved OMB No. 074-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching estimates sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPORT TYPE AND	DATES SOUTED	
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9. SPONSORING / MONITORING AGE	NCY NAME(S) AND ADDRESS(ES	)	10. SPONSORI	NG / MONITORING
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11. SUPPLEMENTARY NOTES			<del></del>	***
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The Sixth Wolf-Creek Conference was held at the Ritz Carlton Hotel in Rancho Mirage from June 4, 2001 to June 7, 2001. Approximately 70 internationally renown experts on Cardiopulmonary Resuscitation attended the Conference and presented their most recent research findings. Four Army Medical officers attended and observed the Conference. The experts specifically focused on issues of optimizing waveforms and emergencies for defibrillation, mechanical options for improving blood flow during cardiac arrest, more optimal vasopressor interventions during CPR, myocardial and cerebral preservation during CPR, and outcome measurements. The proceedings of the Conference will be published in a Supplement of the Journal of Critical Care Medicine.

14. Subject Terms (keywords prev	15. NUMBER OF PAGES		
Cardiopulmonary Resus	18		
Fibrillation, Defibrillation			16. PRICE CODE
17. SECURITY CLASSIFICATION	18. SECURITY CLASSIFICATION	19. SECURITY CLASSIFICATION	20. LIMITATION OF ABSTRACT
OF REPORT	OF THIS PAGE	OF ABSTRACT	
Unclassified	Unclassified	Unclassified	Unlimited



The Sixth

Wolf Creek Conference on

Cardiopulmonary Resuscitation

June 4 – June 7, 2001 Ritz Carlton Hotel Rancho Mirage, California

#### The Wolf Creek Conference On Cardiopulmonary Resuscitation

The so-called Wolf Creek Conferences of CPR researchers were initiated by Doctors James Elam, James Jude, and Peter Safar. The objective was to improve the clinical practices of cardiopulmonary resuscitation by stimulating laboratory and clinical research. There was great need of objective data such that guidelines on resuscitation might be secure. The first meeting of some 10 investigators was hosted in 1975 by Dr. James Jude at his "Wolf Creek Lodge" in Georgia. The proceedings were published by Doctors Safar and Elam as part of a monograph entitled Advances in CPR by Springer-Verlag in 1977. The second meeting occurred approximately five years later. It was chaired by the late Dr. Joseph Redding. The proceedings appeared in Critical Care Medicine in 1981. The third was held approximately five years later and it was organized by Doctors Nicholas Bircher, Mickey Eisenberg and Charles Otto. The Fourth Wolf Creek Conference was held in Palm Springs. California in September 1996 convened by The Institute of Critical Care Medicine under the chairmanship of Dr. Max Harry Weil. The proceedings were published in New Horizon. The Fifth Conference was in Rancho Mirage, in June 1998 at the Ritz Carlton Hotel. The proceedings were published as a Supplement to Critical Care Medicine.

This will be the sixth of these expert conferences. The initial objective of these conferences was at least partially accomplished, and the field of resuscitation science has grown impressively. New capabilities for cardiac resuscitation with newer waveform automated external defibrillators greatly expanded capabilities for defibrillation. A number of new mechanical compression-decompression methodologies have emerged. The futility of the pulse check, the limitations of currently used vasopressor agents and anti-arrhythmic drugs, and the decreased emphasis on ventilation in settings of dysrhythmic cardiac arrest have been demonstrated. Increasingly larger emphasis on resuscitation research has prompted more vigorous clinical, laboratory, and bioengineering research more recently sparked by the impetus of the PULSE Consortium. It is, therefore, timely that another Wolf Creek Conference be held for exchanges between active research workers on CPR. Once again, we anticipate publication of the proceedings as a Supplement to Critical Care Medicine.

### WOLF CREEK VI

### Monday, June 4, 2001

6:30 PM

Informal Dinner on Arrival

### Tuesday, June 5, 2001

7:00 - 7:45 A.M.

Breakfast

7:45 - 7:55 A.M.

MH Weil and W Tang
Welcome and Introduction

#### **SESSION 1**

#### **DEFIBRILLATION**

8:00 - 8:10 A.M.

R. Kerher

Beyond Biphasic Defibrillation Waveforms

8:15 - 8:25 A.M.

R. Ideker

Efficacy of Defibrillation for Spontaneous and

Electrically Induced VF

8:30 - 8:40 A.M.

H. Halperin

Defibrillation After Prolonged Cardiac Arrest

8:45 - 8:55 A.M.

J. Jones/O. Tovar

Electromechanical Deterioration of Ventricular

Function During VF

9:00 - 9:10 A.M.

D. Jorgenson

Adapting Current AEDs for CPR on Children and

Infants

9:15 - 9:25 A.M.

W. Tang

Pharmacological Defibrillation

9:30 - 9:40 A.M.

F. Sterz

Recurrent Cardiac Arrest in 360 Survivors

9:45 - 10:15 A.M.

Coffee Break

10:15 - 10:25 A.M.

G. Nichol

Cost-Effectiveness of Early Defibrillation by Non-Traditional Responders to Out-of-Hospital Cardiac

Arrest

10:30 - 10:40 A.M.

J. Stothert

Prehospital Cardiac Arrest and The Low Energy

Rectilinear Biphasic Waveform

#### 10:45 A.M. - 12:15 P.M. PANEL I

# OPTIMIZING WAVEFORMS AND ENERGIES FOR DEFIBRILLATION

R. White, R. Kerber (Moderators)

G. Bardy, R. Ideker, J. Jones, C. Morgan, D. Snyder, and O. Tovar,

12:15 - 1:30 P.M.

Lunch

#### **SESSION 2**

### MECHANICAL INTERVENTIONS

1:30-1:40 P.M.

R. Berg

Adverse Effects of Interrupting

Chest Compression

1:45 – 1:55 P.M.	J. Bisera A Protective Device For Uninterrupted Precordial Compression
2:00 – 2:10 P.M.	K. Kern Optimizing Compression/Ventilation Ratios.
2:15 – 2:25 P.M.	MH Weil Expanding AEDs to Include Automated Detection of Cardiac, Respiratory, or Cardiorespiratory Arrest
2:30 – 2:40 P.M.	K. Lurie The Critical Role of Ventricular Preload During CPR
2:45 – 2:55 P.M.	V. Nadkarni Liquid Ventilation in a Pediatric Model
3:00 – 3:10 P.M.	C. Young A Portable Device for Uninterrupted Chest Compression
3:10 – 3:40 P.M.	Break
3:40 – 5:10 P.M.	PANEL II

# BLOOD FLOW

G. Ewy, H. Halperin (Moderators) R. Berg, J. Bisera, K. Kern, K. Lurie, and V. Nadkarni

MECHANICAL OPTIONS FOR IMPROVING

5:10 P.M. Dinner

7:00 - 8:30PM

PANEL III

# OPTIMIZING AIRWAY MANAGEMENT AND MECHANICAL VENTILATION DURING CPR

P. Safar, R. Berg (Moderators)

L. Becker, N. Chandra-Strobos, A. Idris, K. Kern, and N. Paradis

### Wednesday, June 6, 2001

7:00 - 8:00 A.M.

Breakfast

**SESSION 3:** 

PHARMACOLOGICAL INTERVENTIONS

8:00 - 8:10 A.M.

N. Paradis

Revisiting High-Dose Epinephrine for the Management of Human Cardiac Arrest

8:15 - 8:25 A.M.

W. Tang

Selective  $\alpha_2$  Adrenergic Vasopressor Agents

for CPR

8:30 - 8:40 A.M.

V. Wenzel

Observations on the Effects of Vasopressin in Human

Victims of Cardiac Arrest

8:45 - 8:55 A.M.

R. Svedjeholm

Role of Intravenous Glutamate for CPR

9:00 - 9:30 A.M.

Break

9:30 - 11:00 A.M.

PANEL IV

# MORE OPTIMAL VASOPRESSOR INTERVENTIONS DURING CPR

G. Ewy, C. Otto. (Moderators) V. Nadkarni, J. Niemann, N. Paradis, W. Tang, and V. Wenzel.

11:00 – 11:45 A.M. FR

FREE DISCUSSION

MH Weil and W. Tang (Moderators)

11:45 A.M. - 1:15 P.M Lunch

SESSION 4: MYOCARDIAL PRESERVATION

1:15 - 1:25 P.M.

W. Tang

Myocardial Hibernation During CPR

1:30 - 1:40 P.M.

R. Gazmuri

Sodium Hydrogen Exchange Inhibitor for Minimizing Post-Resuscitation Myocardial

Dysfunction

1:45 - 1:55 P.M.

A. Idris

Oxidant Injury After Cardiac Arrest and

Reperfussion

2:00 - 2:10 P.M.

L. Becker

Inducing Hypothermia: Cellular Rationale and

Potential Clinical Method

2:15 - 2:25 P.M.

T. Vanden Hoek

Post-Resuscitation Oxidant Injury in

Cardiomyocytes due to RAC1 NADH Oxidase

2:30 - 3:00 P.M.

**Break** 

3:00 - 4:30 P.M.

PANEL V

### MECHANISMS AND MANAGEMENT OF POST-RESUSCITATION MYOCARDIAL DYSFUNCTION

G. Sopko, MH. Weil (Moderators)

L. Becker, N. Chandra-Strobos, R. Gazmuri, H. Halperin, K. Kern, and W. Tang

#### **SESSION 5**

### CEREBRAL RESUSCITATION

4:30 - 4:40 P.M.

W. Behringer/P. Safar

Hypothermia for Cerebral Preservation

**During CPR** 

4:45 - 4:55 P.M.

B. Böttiger

Effects of Inhibition of Caspases on Neuronal

Degeneration

5:00 - 6:30 P.M.

PANEL VI

#### CEREBRAL RESUSCITATION

P. Safar, S. Tisherman (Moderators)

W. Behringer, N. Bircher, B. Böttiger, G. Ling, and F. Sterz

6:30 - 8:00 P.M.

Dinner

8:00 - 9:30 P.M.

PANEL VII

#### ANTI-ARRHYTHMIC DRUGS FOR **FACILITATING CPR**

N. Chandra-Strobos, V. Nadkarni (Moderator)

T. Auferderheide, P. Ding, R. Gazmuri, J. Ornato, and R. Svedjeholm

### Thursday, June 7, 2001

7:15 - 8:15 A.M.

Breakfast

**SESSION 6:** 

**OUTCOME MEASUREMENTS** 

8:15 - 8:25 A.M.

A. Hallstrom

Should Time to Call Be Used in Assessing Time Gradients of Out-of-Hospital Cardiac Arrest?

8:30 - 8:40 A.M.

**PY Ding** 

In-Hospital Resuscitation: The Taipei Experience

8:45 - 8:55 A.M.

P. Pepe/J. Wigginton

Gender-Related Differences in the Presentation and Outcomes in Out-of-Hospital Cardiac Arrest

9:00 - 9:10 A.M.

S. Stratton/J. Niemann

Impact of DNR on Survival to Discharge

9:15 - 9:25 A.M.

T. Aufderheide

Asystolic Unwitnessed Out-of-Hospital Cardiac Arrest As a Criterion for Waiving Resuscitation

9:30 - 9:40 A.M.

C. Babbs

Meta-Analysis of Studies on CPR

9:45 – 10:15 A.M.

Break

10:15 - 11:45 A.M.

PANEL VIII

#### **OUTCOME MEASUREMENTS**

G. Nichol, (Moderator)

T. Aufderheide, C. Babbs, PY Ding, N. Chandra-Strobos, A. Idris, and

G. Sopko

11:45 A.M. - 1:15 P.M. Lunch

11:45 A.M. - 1:15 P.M. Lunch

1:15 - 2:45 P.M.

PANEL IX

### CRITERIA FOR DISCONTINUING CPR EFFORTS

N. Chandra-Strobos. P. Safar (Moderators)

R. Gazmuri, G. Nichols, J.Niemann, N. Paradis.

2:45 - 3:15 P.M.

Break

3:15 - 4:45 P.M.

PANEL X

# CONFIRMING CARDIAC ARREST IN REAL-TIME: MONITORING/MEASURING THE EFFECTIVENESS OF CPR

G. Ewy, MH. Weil (Moderators)

B. Berg, K. Kern, V. Nadkarni, N. Paradis, C. Otto, and W. Tang

5:00 PM

ADJOURNMENT OF WOLF CREEK VI

James L. Atkins, MD, PhD

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Tom P. Aufderheide, MD

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Gust Bardy, MD

Professor of Medicine University of Washington

Lance Becker, MD

Director Emergency Resuscitation Research Center University of Chicago

Wilhelm Behringer, MD

Research Fellow Safar Center for Resuscitation Research University of Pittsburgh

Robert Berg, MD

Professor of Pediatrics University of Arizona Health Sciences Center

Nicholas Bircher, MD

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#### The Sixth Wolf Creek Conference on Cardiopulmonary Resuscitation is presented

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